



**Operations Monitoring Report
First Quarter FY08**

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I. Executive Summary

A review of the fiscal year 2008 (FY08) First Quarter performance and contract obligations between Nashville District Energy, LLC (CNDE) and the Metropolitan Government of Nashville and Davidson County (Metro) is presented in this report by Thermal Engineering Group, Inc (TEG). The status and available funds for all active capital construction and repair and improvement projects are presented.

For the First Quarter FY08, the chilled water sendout decreased by approximately 1% over the previous First Quarter (FY07), while the sales remained relatively constant. The number of cooling degree days increased by approximately 16% over the same periods. The peak chilled water demand for the current quarter is 17,400 tons with a cooling load factor for the quarter of approximately 66%.

The steam sendout is approximately 31% lower this quarter than the previous First Quarter, and steam sales are down by approximately 56%. There were no recorded heating degree days in the current quarter, however, there were 15 heating degree days in the First Quarter of FY07. Steam system losses were approximately 58% of the sendout compared to 69% from the previous First Quarter. The peak steam demand for the current quarter is 43,156 pounds per hour, an approximate decrease of 2%. The heating load factor for the quarter is approximately 46%, which is a decrease of approximately 29% from the previous First Quarter.

The EGF performance continues to surpass the System Performance Guarantee (Guaranteed Maximum Quantity or GMQ) levels. The chilled water and steam plant electric consumptions continue to perform considerably lower than the guaranteed levels. The steam plant fuel consumption is down approximately 32% from the previous First Quarter. The total water consumption for the steam and chilled water plants has decreased approximately 3% from the previous First Quarter. The source of the “leak” in the EDS was discovered during this quarter and repaired. As a result, the amount of EDS make-up significantly decreased.

Work continued on DES Capital Projects during the First Quarter of FY08. Modifications to one of the two remaining metering projects (DES 021 & 022) was completed during the First Quarter while modifications to the second project will be complete in the Second Quarter FY08. There is one FY07 project which remains open (DES 036) and is expected to be complete by the end of the Second Quarter or during the first part of the Third Quarter FY08. Several FY08 Capital projects are in the design phase and should be bid during the Second Quarter with construction work planned to take place during the Third Quarter. Repair and Improvements to the EDS continue as scheduled.

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Table of Contents

Section	Description	Page
I.	Executive Summary	i
II.	Energy Distribution System Sales and Performance	1
	A. Chilled Water	1
	1. Sales and Sendout	1
	2. Losses	2
	3. Performance	4
	B. Steam	5
	1. Sales and Sendout	5
	2. Losses	6
	3. Performance	7
	C. Contract Guarantee Performance	9
III.	EGF Operations	11
	A. Reliability	11
	B. Efficiency	12
	C. Environment, Health and Safety	12
	D. Personnel	12
	E. Training	12
	F. Maintenance and EGF Repairs	12
	G. EGF Walk-through	13
IV.	Capital Projects	14
	A. First Quarter Open Projects	14
	B. First Quarter Closed Projects	17
	C. Capital Projects Budget	18
V.	Energy Distribution System Repairs, Improvements, PM and Emergencies	19
	A. Repairs and Improvements	19
	B. Preventive Maintenance	20
	C. Emergencies	20
	D. EDS Walk-through	20
VI.	Customer Relations	22
	A. Marketing	23
	B. Customer Interaction	23
VII.	Recommendations	23

II. Energy Distribution System Sales and Performance

This section of the report discusses and presents performance information regarding the operation of the EGF for the periods described. Charts and tabular data are also presented to provide a more detailed description of the actual EGF performance.

A. Chilled Water

1. Sales and Sendout

A comparison for the First Quarter chilled water sales is shown in Figure 1. This data reflects a slight increase in sales for the current quarter over the same quarter of the previous fiscal year. The increase in sales may be largely attributed to an increase in the number of cooling degree days for the month of September. (The current fiscal year data is shown with the hatched bars in Figure 1.)

The peak chilled water demand for the current quarter is 17,400 tons occurring during the month of August. The cooling load factor for the current quarter, relative to sendout, is approximately 66% and approximately 68% for the previous First Quarter.

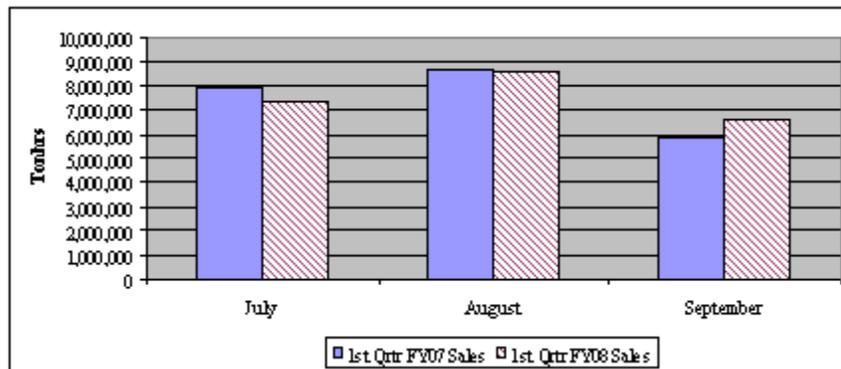


Figure 1. First Quarter Chilled Water Sales Comparison

Figure 2 shows the chilled water sales, sendout and losses for the 2008 fiscal year to date. The losses on this figure are defined as the difference in tonhrs per month between the recorded sendout and sales values and represent the total energy loss for chilled water in the EDS. The number of cooling degree days per month are also tracked for comparison.

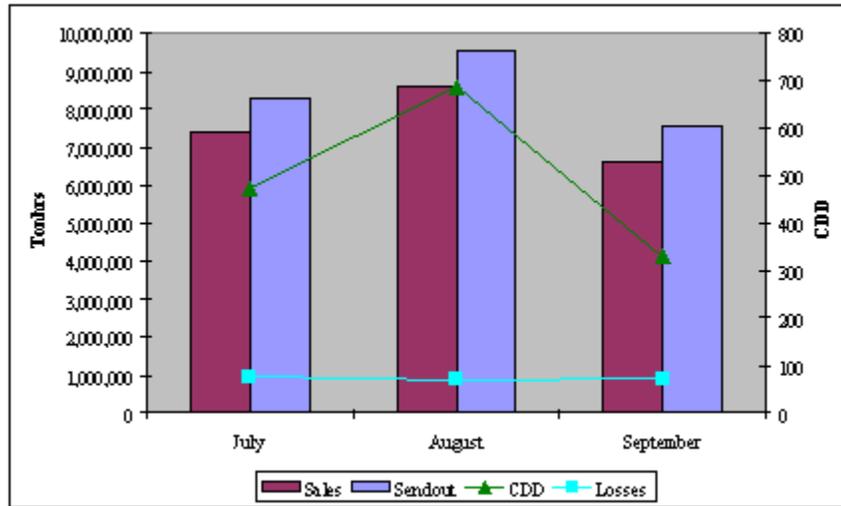


Figure 2. FY08 Chilled Water Sales, Sendout and Losses

2. Losses

A comparison of the total, chilled water energy losses in the EDS for the First Quarter is shown in Figure 3. These losses are the difference in chilled water sendout and sales. The energy loss is caused by a combination of the loss in the mass of chilled water and a net heat gain into the chilled water piping. The increase in supply temperature between the EGF and the customers is typically less than 1°F.

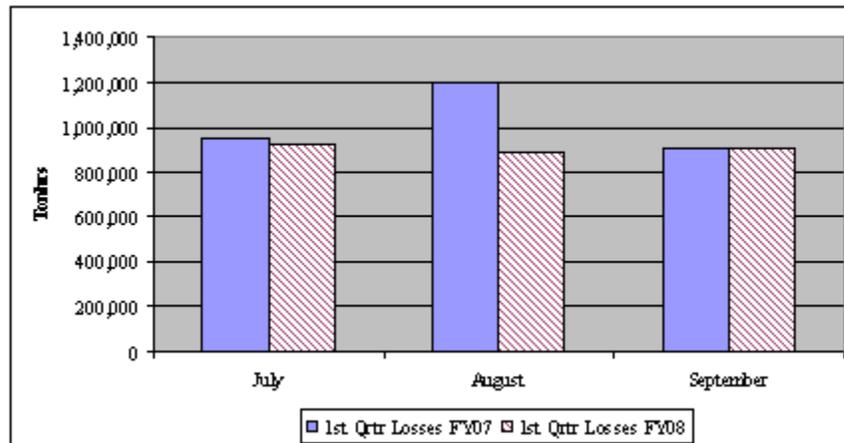


Figure 3. First Quarter Chilled Water Energy Losses

The mass loss to the EDS is reflected in the amount of city water make-up (MU) to the system. An increase in the mass loss is noted with a comparison between the First Quarter data for FY07 and FY08 of approximately 35%. An increase in the amount of city water make-up to the cooling towers is also apparent in the comparison of First Quarter data as shown in Figure 4. The total cooling tower make-up increased by approximately 3%.

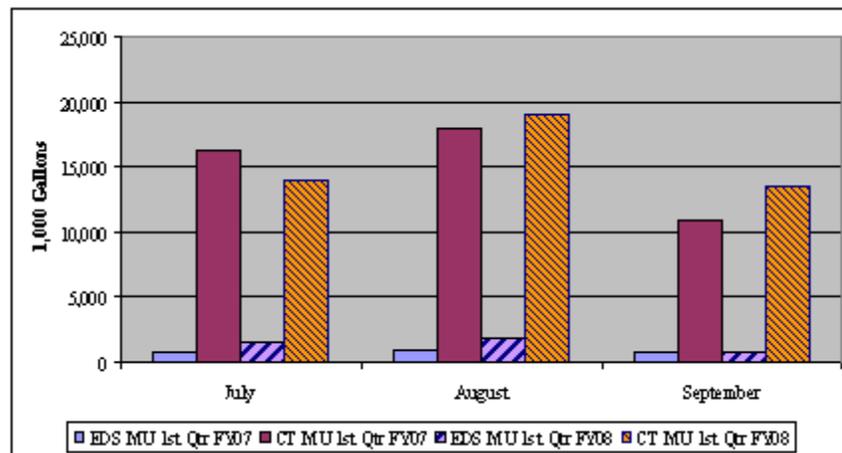


Figure 4. First Quarter Chiller Plant City Water Make-up

In the operation of a cooling tower, the majority of make-up water required is due to the evaporation of the circulating cooling water. The balance of the make-up is due to the blow down of the tower required by the levels of concentration of particulates and other contaminants entrained in the circulating water.

A comparison between the theoretical cooling tower make-up and the actual amount used indicates that the actual amount of evaporation is less than the theoretical model would suggest occurred, assuming that the meter readings are correct. This comparison may also suggest that the theoretical amount of energy rejected in the cooling towers is higher than the actual amount, indicating that some of the electrical energy accounted for in the theoretical model is not rejected at the cooling towers. The recorded data also suggests that the cooling towers are operating, on average, at approximately 11 cycles of concentration for the current quarter. This relatively high level could be indicative of a relatively “clean” condensing water system.

The source of the EDS “leak” was found during the quarter and repaired. A substantial decrease in the EDS make-up is noted for the month of September. The EDS make-up will continue to be monitored, but the average hourly make-up rate has almost vanished.

3. Performance

The performance of the chilled water aspect of the EGF is presented by the following two charts, Figures 5 and 6, for the fiscal-year-to-date. Under the management of CNDE, the System Performance Guarantee levels as described in the ARMA are being achieved quite satisfactorily.

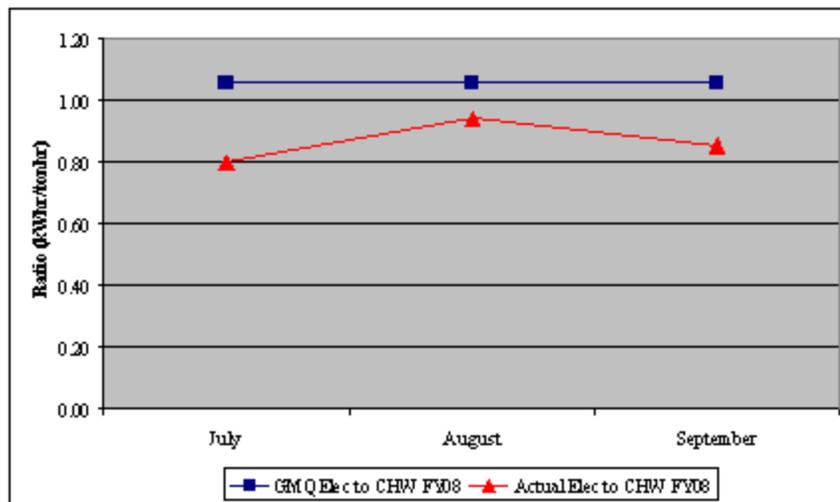


Figure 5. Chilled Water Plant Electric Performance Guarantee Comparison

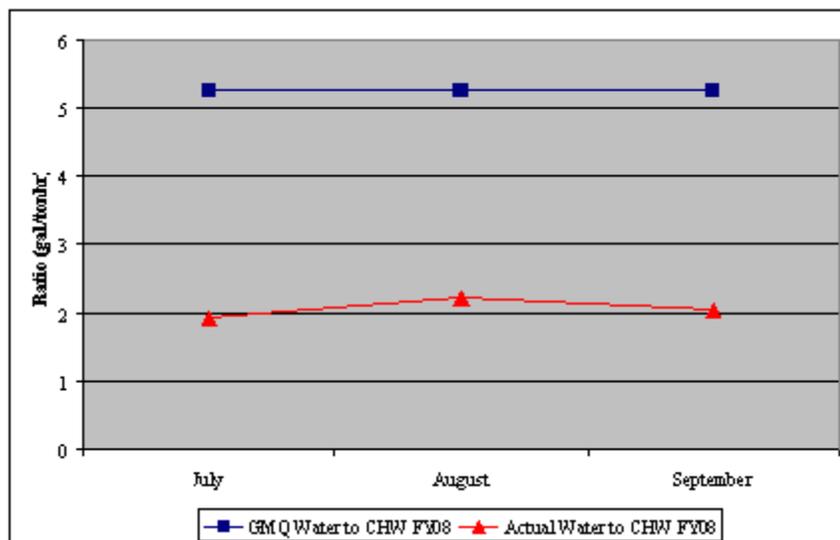


Figure 6. Chilled Water Plant Consumption Performance Guarantee Comparison

The chilled water allocation of the electric consumption falls under the GMQ limit of 1.055 kWhr per tonhr for the current quarter. The electric usage for the current quarter is approximately 2% less than in the First Quarter for FY07. Also, the actual chilled water plant water conversion factor is approximately 5% greater than in the First Quarter of FY07.

B. Steam

1. Sales and Sendout

The steam sendout decreased by approximately 31% for the current quarter over the previous First Quarter (FY07), and the sales decreased by approximately 56%. Steam system losses were approximately 58% of the sendout compared to 69% from the previous First Quarter. There were no heating degree days this quarter, but there were 15 in the previous First Quarter. A comparison for the First Quarter steam sales is shown in Figure 7.

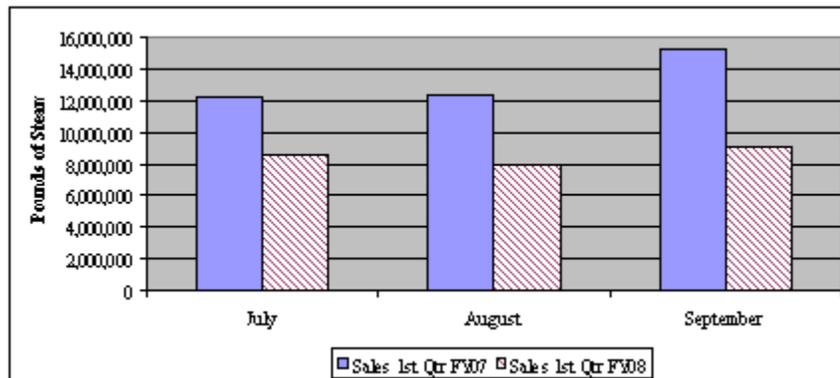


Figure 7. First Quarter Steam Sales Comparison

Figure 8 shows the steam sales, sendout and losses for the fiscal-year-to-date. The losses on this figure are defined as the difference in pounds per month between the recorded sendout and sales values and represent the total mass loss in the EDS between the EGF and the customer meters.

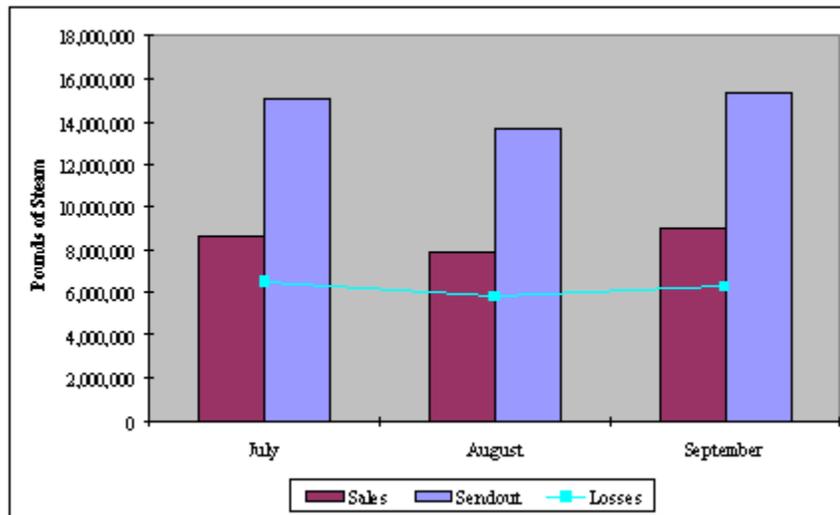


Figure 8. Steam Sales, Sendout and Losses for FY08

The peak steam demand for the current quarter is 43,156 pounds per hour and equates to an approximate 2% increase in demand over the previous First Quarter. The heating load factor for the current quarter, relative to sendout, is approximately 46% and reflects a decrease in the heating load factor from the previous First Quarter of approximately 29%.

2. Losses

A comparison of the total steam mass losses in the EDS for the First Quarter is shown in Figure 9. The mass loss is caused by the heat loss in the EDS between the EGF and the customer meters, resulting in a mass loss at steam traps. Faulty traps, steam leaks or meter error could also be a contributing cause of these losses. The total losses for the current quarter are slightly more than in FY07.

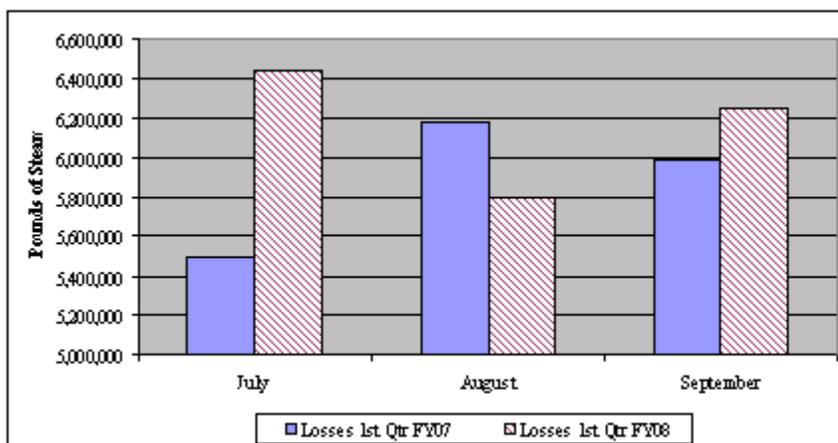


Figure 9. First Quarter Comparison of the Steam Losses Between the EGF and the Customers

The amount of city water make-up (MU) to the steam system consists of the loss in mass between the EGF and the customers, in the condensate return from the customers to the EGF and losses at the EGF. A decrease in the mass loss is noted with a comparison between the First Quarter data for FY07 and FY08 of approximately 162%, due largely to an increase in the amount of condensate return to the EGF. This data is shown in the comparison of First Quarter data in Figure 10.

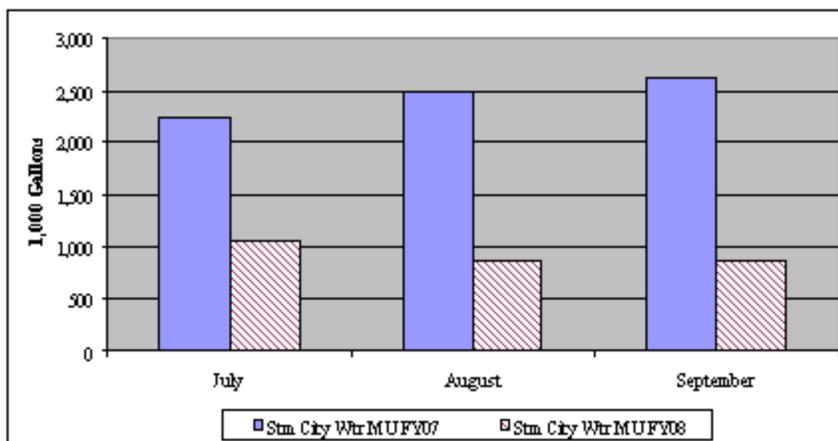


Figure 10. Steam System City Water Make-up Comparison

3. Performance

The performance of the steam system aspect of the EGF is presented by the following three charts, Figures 11, 12 and 13. Under the management of CNDE, the System Performance Guarantee levels as described in the ARMA are being achieved quite

satisfactorily except for excursions in the water and electric consumptions for the months of August and September. The fuel consumptions remain below the GMQ for the quarter. The electric usage for the current quarter is approximately 34% greater than in the First Quarter for FY07.

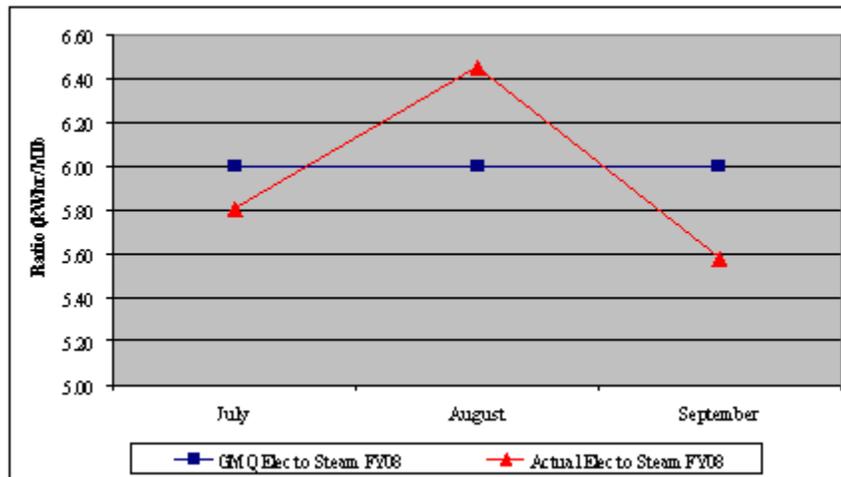


Figure 11. Steam Plant Electric Performance Guarantee Comparison

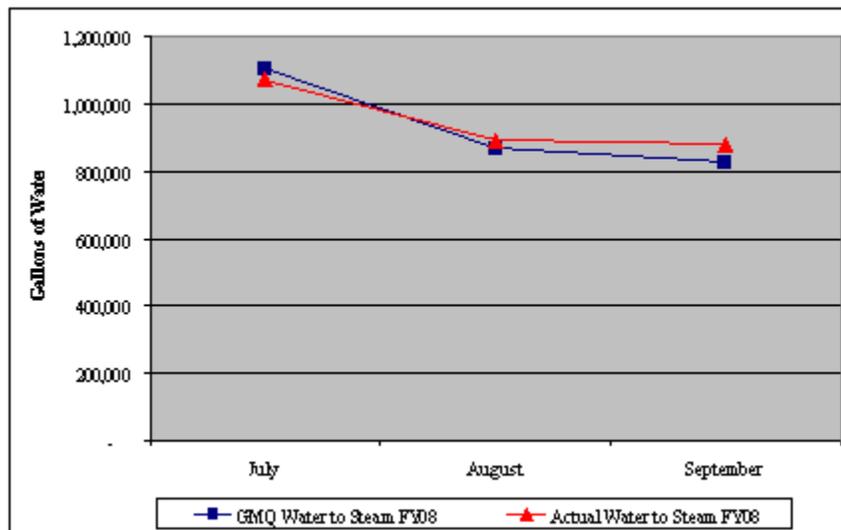


Figure 12. Steam Plant Water Consumption Performance Guarantee Comparison

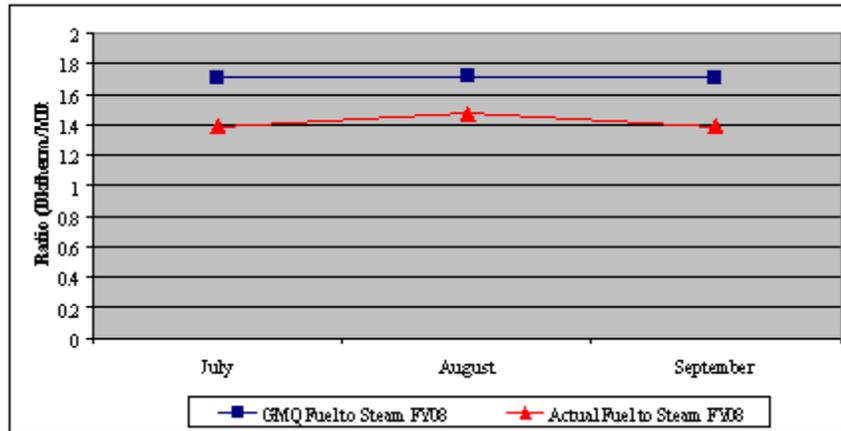


Figure 13. Steam Plant Fuel Consumption Performance Guarantee Comparison

C. Contract Guarantee Performance

The production and sales performance for the EGF and EDS are summarized in Table 1. Additional parameters, such as cooling tower blowdown and peak demands are listed in this table, as well. Table 2 presents the First Quarter comparison of the Guaranteed Maximum Quantities (GMQ) of the criteria commodities (fuel, water and electricity).

Table 1. EGF Production and Sales Performance Comparison

	Unit	First Quarter FY08	First Quarter FY07	*Percent Difference
	days	92	91	1.09%
Total Electric Use	kWhrs	19,724,315	20,079,736	-1.80%
Chilled Water	kWhrs	19,573,305	19,925,357	-1.80%
Steam	kWhrs	151,010	154,379	-2.23%
Total Water Use	kgal	53,719	55,471	-3.26%
Total Chilled Water	kgal	50,908	48,106	5.50%
EDS Make-up	kgal	4,233	2,734	35.41%
Cooling Towers	kgal	46,675	45,372	2.79%
Calc CT Evaporation	kgal	42,760	43,222	-1.08%
Calc CT Blowdown	kgal	3,915	2,150	45.08%
Calc #Cycles		1092	20	-84.07%
Steam	kgal	2,811	7,365	-161.97%
Total Fuel Use	mmBTU	62,344	82,449	-32.25%
Natural Gas	mmBTU	62,344	82,424	-32.21%
Propane	mmBTU	0	25	N/A
Condensate Return	kgal	2,964	5	99.85%
Avg Temp	°F	24,176,386	37,149	99.85%
		177.0	155.0	12.43%
Sendout				
Chilled Water	tonhrs	25,339,600	25,573,600	-0.92%
Steam	lbs	43,990,000	57,455,000	-30.61%
Peak CHW Demand	tons	17,400	17,300	0.57%
Peak Steam Demand	lb/hr	43,156	44,156	-2.32%
CHW LF		65.96%	67.69%	-2.62%
Steam LF		46.17%	59.58%	-29.05%
Sales				
Chilled Water	tonhrs	22,612,523	22,518,311	0.42%
Steam	lbs	25,504,124	39,792,121	-56.02%
Losses				
Chilled Water	tonhrs	2,727,077	3,055,289	-12.04%
Steam	lbs	18,485,876	17,662,879	4.45%
		42.02%	30.74%	
Degree Days				
CDD		1,491	1,248	16.30%
HDD		0	15	NA

*positive percent difference values imply an increase from FY07 to FY08

Table 2. GMQ Calculations and Performance Guarantees

GMQ Calculations	Unit	First Quarter FY08	First Quarter FY07	*Percent Difference
Steam				
GMQ Elec Conversion	kWhr/Mlb	6.00	6.00	
Electric Conversion	kWhr/Mlb	5.92	3.88	34.48%
GMQ Plant Efficiency	Dth/Mlb	1.715	1.781	
Plant Efficiency	Dth/Mlb	1.417	1.435	-1.26%
Actual %CR		54.96%	0.06%	99.88%
Avg CR Temp	*F	177	155	12.43%
GMQ Water Conversion	gal	2,793,781	8,096,094	
Water Conversion	gal	2,839,544	7,438,650	-161.97%
Chilled Water				
GMQ Elec Conversion	kWhr/tonhr	1.055	1.055	
Electric Conversion	kWhr/tonhr	0.866	0.885	-2.22%
GMQ Water Conversion	gal/tonhr	5.25	5.25	
Water Conversion	gal/tonhr	2.25	2.14	5.11%

*positive percent difference values imply an increase from FY07 to FY08

III. EGF Operations

Items relating to the facility operations presented herein are derived from the reports issued by CNDE for the months of July, August and September 2007. Communication between TEG and CNDE has proven to be excellent, and CNDE has reported and managed all EGF operations satisfactorily and according to agreement.

A. Reliability

The principle issues surrounding the reliable operation of the EGF relates to the ability to operate without interruption, exclusive of planned outages, and disruption of service to the customers. CNDE reported several disruptions in service during the quarter, but the duration of each was short and had negligible apparent effects on the customers. The reliability issues are summarized in this section.

- On July 25, chillers 2, 5 and 7 tripped on low condenser flow during a maintenance test performed by a Trane technician. The trips caused an increase in the system chilled water temperature for approximately 15 minutes. The chillers were immediately re-started.
- On September 9, boiler #1 tripped due to an apparent loose connection in a control cabinet. On September 24, boiler #1 tripped, again, due to a failed e-stop relay. The

causes of both trips were repaired, and the boiler was operating at 150 psig within approximately one hour.

- The leak in the chilled water system was repaired on September 7 which required a shut-down of a portion of the EDS for approximately eight (8) hours during the evening hours. Only a few customers were affected along 3rd Avenue South.

B. Efficiency

The operation of the EGF satisfied the guaranteed levels for all commodity usage except for the water and electric usage to the steam plant. These values were recorded higher than the allowable level during the months of August and September due to an increase in the boiler blowdown. A more detailed discussion of the contract guarantee performance was presented previously in this report.

C. Environment, Health and Safety

The annual and semi-annual emissions monitoring reports were completed and submitted as required. No environmental violations were reported during the quarter.

There were no employees reported to be on light duty and were no reported lost-time accidents during the quarter. Monthly safety meetings were conducted by HazMat, Inc.

D. Personnel

The EGF currently has twenty-six full time employees. There were no personnel changes during the quarter.

E. Training

Staff training for this quarter consisted of the Health and Safety training discussed previously.

F. Maintenance and EGF Repairs

CNDE continues to report on the numerous maintenance and preventive maintenance activities performed on the EGF primary and ancillary equipment. The principle items are discussed herein as they relate to the repair, maintenance or replacement of equipment or devices at the facility and are not considered extraordinary.

- During the month of July, the packing was replaced on the #1 and #2 boiler feedwater pumps. A new actuator was installed on the cooling tower make-up valve.

- The chilled #4 oils sump heating element and the chiller #6 oil pressure regulator were replaced by Trane. Trane also added some refrigerant to chillers 7, 8 and 9.
- The Aquamatic valve on the #3 softener was re-built.
- The drive belt for cooling tower #7 was replaced.
- F.S. Sperry repaired the refractory on boiler #1 steam drum after portions were discovered missing during the annual boiler inspection.
- BAC replaced some cooling tower fan blades during the quarter. This work was completed under the equipment manufacturer's warranty.
- Other minor items were presented in the CNDE monthly reports.

G. EGF Walk-through

A quarterly Walk-through of the EGF was performed on October 15 by Kevin Jacobs, P.E. of TEG. This review involved a tour of the facility with the primary points of interest and concern noted herein.

- The compressors for all running chillers appeared to be sweating. Water was dripping on the insulated shells and pooling on the floor near the chillers.
- Numerous cracks in the outside concrete walls remain. No additional work has been performed on these cracks.
- The re-grading and sloping of the area at the west face of the EGF has not been completed. These repairs could help prevent further settling of the foundation and soil erosion.

IV. Capital Projects

The Capital Projects discussed in this section are those projects funded through the issuance of bonds by Metro. The status of scheduling of the projects are discussed, and the end of quarter cost status is also presented.

A. First Quarter FY08 Open Projects

The following projects remained open at the end of the First Quarter of FY08.

1. DES 021 - Customer Metering

The Work relating to this project is complete, and CNDE began operating under the terms of the ARMA on April 1, 2007. Additional work was required at the Wildhorse Saloon and Municipal Auditorium. The Work at the Wildhorse was completed during this quarter. The work at the Municipal Auditorium has been bid and awarded is scheduled to be complete by the end of October 2007.

2. DES033 - Manhole Lid and Ring Replacement/Restoration

This project relates to the repair and replacement of manhole lids and rings whenever Metro Public Works performs street re-paving. No work was reported for this project during the First Quarter FY08. This project will remain open.

3. DES035 - Condensate Line Replacement from MH 5 to 6

The additional insulation required in MH 6 was completed during the First Quarter FY08. All Work associated with this project is complete. The closeout documentation is expected in the Second Quarter FY08.

4. DES040 - EDS Tunnel Lighting Rehabilitation Phase II

Work on this project was completed during the First Quarter FY08.

5. DES041 - Symphony Condensate Repair

The discharge of the condensate return from MH B4, originating from the Symphony building, was reported to have damaged some sewer piping near the manhole. At the end of the First Quarter, TEG was evaluating options for modifications to this system. Once the evaluation is complete, TEG will make recommendations to the Contract Administrator for proceeding with the design and modification.

6. DES042 - Regions Bank Condensate Line Repair

Due to a previous failure, the condensate line between MH 3 and 4 was isolated, and the condensate from the steam traps in MH 4 was piped into the Regions Bank building where it was drained to the sewer. The condensate line into the Regions Bank has collapsed and is in need of replacement. Economic evaluations were performed regarding the repair of the condensate line between MH 3 and 4 to return the condensate to the EGF. Since a favorable payback does not exist to restore the condensate line between MH 3 and MH4, and return the condensate to the EGF, the service line to the Regions Bank building must be replaced in order to drain the condensate from the dripleg in MH 4. The design of these modifications are nearly complete and should be bid out during the Second Quarter FY08 with the work taking place during the Second and Third Quarters FY08.

7. DES044 - MH 5 to MH 9 Condensate Line Replacement

The condensate line between MH5 and MH 9, which is located from the intersection of 5th & Deaderick and the intersection of 5th & Union, has been isolated due to its poor condition. This segment of condensate line represents a portion of the “main condensate loop” within the downtown distribution system. The replacement of this section of the condensate return system will provide redundancy to enable the return of condensate to the plant from two directions, thus improving the reliability of the system. The design of the modifications for this project are currently ongoing.

8. DES045 - MH 6 to MH 23 Condensate Line Replacement and the Sheraton Hotel Condensate Service Line Replacement

Thermographic imaging of the condensate line between MH 6 and MH 23, which is located from the intersection of Union & 6th to the intersection of Union and 7th, indicates that the line is in poor condition. This section of condensate main receives condensate from two customers; the Sheraton Hotel and the Hermitage Hotel. However, because the condensate line between MH 5 and MH 9 is out of service, if the section of line between MH 6 and MH 23 were to go out of service, the condensate return from an additional customer, the 501 Building, would also be lost. In an attempt to avoid a total failure of this section of condensate line, this repair is included in FY08's capital projects. The design of the modifications for this project are currently ongoing.

9. DES046 - Ryman Auditorium Condensate Line

The condensate service line from the Ryman Auditorium to the main return line in 4th Avenue is in very poor condition. Because of the actual length of this service line, the economics do not support the replacement this line. Therefore, this project will focus on the installation of a condensate tempering system and disposal system to the sewer system. The evaluations for the options and alternates for this project will begin in the Second Quarter FY08.

10. DES047 - State Steam Tunnel Condensate Line Replacement

Approximately 1,000 feet of the condensate line located in the State steam tunnel has been distorted due to expansion joints which are no longer functioning properly and require replacement. Approximately 60 feet of this line was replaced last fiscal year leaving 940 feet of piping which still needs replacement. The evaluations for the options and alternates for this project will begin in the Second Quarter FY08.

11. DES048 - Tunnel Lighting & Electrical Upgrades Phase III

The lighting and some of the electrical system located in the Broadway, 4th Avenue and 7th Avenue distribution tunnels was in poor condition and presented a potential safety hazard to maintenance personnel. Therefore a plan was developed to repair and replace the lighting and some electrical components in three phases over a 3 year period. The first two phases of this project have been completed and the final phase is budgeted and scheduled to be replaced this fiscal year.

Currently CEPS is evaluating the structural aspects of the tunnel through a third-party contractor. This evaluation is expected to be completed during the Second Quarter FY08. Additional engineering and design may be required upon completion of this evaluation.

12. DES049 - Temporary Boiler Connection

Through the City of Nashville's evaluation of its needs related to emergency planning, it was determined that there is a need to be able to supply heating and hot water to the inmates being housed in the Metro Criminal Justice Center and Courthouses. Therefore, this project will install emergency connections in an existing manhole to allow a temporary boiler to be connected to the distribution system. The evaluations for the options and alternates for this project will begin in the Second Quarter FY08.

13. DES050 - Manhole & Tunnel Insulation Repair

Insulation in several of the manholes and some portions of the tunnels is in disrepair. Not only does this present a safety hazard to personnel but it can also cause damage to manhole equipment, components and the manhole structure itself. Therefore, after prioritizing the needs of the manholes requiring attention, this project will start addressing the repair/replacement of insulation.

The Work associated with this project is ongoing as required. MH D is the first manhole expected to be completed during the Second Quarter FY08. CEPS is managing the installing contractor and the completion of the Work.

14. DES051 - Expansion Joint Replacement - 4th Ave Tunnel

An expansion joint on the condensate return line in the 4th Avenue Tunnel has experienced re-occurring leaks. This project will evaluate the reason for these re-occurring leaks and will replace the damaged expansion joint. The evaluations for the options and alternates for this project will begin in the Second Quarter FY08.

15. DES052 - Wildhorse Saloon Steam & Condensate Line Replacement

The condensate service line to the Wildhorse Saloon failed during FY07. In addition, CNDE has been monitoring a “hot spot” on the steam service line for several months. After a review of the condition and type of piping system serving this customer, both the condensate and steam service lines require replacement. TEG has started the design of the modifications for this project. The issuance of bid documents is expected in the Second Quarter FY08.

B. First Quarter FY 08 Closed Projects

1. DES017 - Tennessee Tower Decoupling

The construction Work related to this project was completed during FY07. However, this project remained open during the First Quarter FY08 since the State was planning on the cleaning of the existing heat exchangers. The cleaning of these heat exchangers occurred during the First Quarter FY08, but confirmation on the final payments for this work was not completed. This project is expected to be completed during the Second Quarter FY08.

2. DES020 - Renaissance Hotel Metering and Piping

The construction Work related to this project was completed during FY07. However, this project remained open during the First Quarter FY08 due to issues with the mechanical seals to the new pumps. The pump seals have been repaired at the Renaissance Hotel, but additional bearing and seal work remains at the Renaissance Office. The completion of this work is expected in the Second Quarter FY08.

3. DES024B - MH 18 to L Steam and Condensate Replacement

The Work for this project was completed during the Fourth Quarter of FY07. The submission of the closeout documents occurred during the First Quarter FY08.

4. DES029 - Tennessee Tower Condensate Line Replacement

The Work for this project was completed during the Fourth Quarter of FY07. The submission of the closeout documents occurred during the First Quarter FY08.

5. DES037 - James K Polk Steam and Condensate Service Line Replacement

The Work for this project was completed during the Fourth Quarter of FY08. The submission of the closeout documents occurred during the First Quarter FY08.

C. Capital Projects Budget

The following table summarizes the reported expenditures and remaining balance of the DES capital projects based on reported expenditures at the end of the First Quarter FY08. Open projects or completed projects that require some additional management are shown. Projects that were closed during FY07 or in this quarter are shown with a gray highlight. The total, historic budget and expenditures of the 2002A Bond are not shown; the values shown reflect the more recent projects and expenditures.

Table 5. Bond Project Budget Summary

	DES Project #	Description	Total Budget	Total Spent to Date	Remaining Balance
2002A Bond Projects					
	DES017	TN Tower Decoupling	\$ 1,350,422.00	\$ 1,223,738.36	\$ 126,683.64
		Interest Earned	\$ -	\$ (2,783.77)	\$ 2,783.77
		Total Closed Projects	\$ 2,377,280.59	\$ 2,377,280.59	\$ -
		Total 2002A Bond	\$ 3,727,702.59	\$ 3,598,235.18	\$ 129,467.41
2005B Bond Projects					
	DES020	Renaissance Decoupling	\$ 538,818.00	\$ 576,919.94	\$ (38,101.94)
	DES004,021,022	Customer Metering	\$ 1,676,439.40	\$ 1,695,681.83	\$ (19,242.43)
	DES042	Regions Cond Line Replacement	\$ -	\$ 4,141.21	\$ (4,141.21)
	DES018	Library Connection	\$ 767,151.00	\$ 767,149.11	\$ 1.89
	DES019	Symphony Connection	\$ 2,470,924.00	\$ 2,489,765.65	\$ (18,841.65)
	DES027	Viridian Connection	\$ 1,546,969.00	\$ 1,611,435.27	\$ (64,466.27)
		Project Development	\$ 1,186,710.03	\$ 315,570.26	\$ 865,432.77
		Total 2005B Bond	\$ 8,187,011.43	\$ 7,466,370.28	\$ 720,641.15
2007 Bond Projects					
	DES024B	MH 18 to L Steam/Cond	\$ 818,206.00	\$ 821,756.64	\$ (3,550.64)
	DES029	Tn Tower Cond Line	\$ 317,031.00	\$ 288,466.81	\$ 28,564.19
	DES035	MH 5 ot MH 6 Cond Line	\$ 489,688.00	\$ 417,332.06	\$ 72,355.94
	DES037	JK Polk Cond Line	\$ 413,123.00	\$ 385,364.86	\$ 27,758.14
	DES040	Tunnel Lighting Ph II	\$ 152,551.00	\$ -	\$ 152,551.00
	DES034	State Tunnel Communications	\$ 20,500.00	\$ 20,509.00	\$ (9.00)
	DES038	Wachovia Cond Line	\$ 83,016.00	\$ 69,646.50	\$ 13,369.50
	DES039	2" State Cond Line	\$ 80,233.00	\$ 67,255.66	\$ 12,977.34
		Project Development	\$ 484,152.00	\$ -	\$ 484,152.00
		Total 2007 Bond	\$ 2,858,500.00	\$ 2,070,331.53	\$ 788,168.47
2008 Bond Projects					
	DES044	MH 5 to MH 9 Cond Line	\$ 550,000.00	\$ -	\$ 550,000.00
	DES045	MH 6 to MH 23 & Sheraton CND Lines	\$ 700,000.00	\$ -	\$ 700,000.00
	DES046	Ryman Auditorium Cond Line	\$ 150,000.00	\$ -	\$ 150,000.00
	DES047	State Steam Tunnel	\$ 325,000.00	\$ -	\$ 325,000.00
	DES048	Tunnel Lighting & Elec Ph III	\$ 90,000.00	\$ -	\$ 90,000.00
	DES049	Temp Boiler Connection MH 15	\$ 93,500.00	\$ -	\$ 93,500.00
	DES050	MH & Tunnel Insul Repair	\$ 100,000.00	\$ -	\$ 100,000.00
		Tunnel & MH Access Mod	\$ 220,000.00	\$ -	\$ 220,000.00
	DES051	Exp Rt Replace at 4th Ave Tunnel	\$ 20,000.00	\$ -	\$ 20,000.00
	DES052	Wildhorse Stm & Cond	\$ -	\$ -	\$ -
		Closed Projects Sub-total	\$ -	\$ -	\$ -
		Metro Project Admin	\$ -	\$ -	\$ -
		Project Man, Development, etc	\$ 500,000.00	\$ -	\$ 500,000.00
		Total 2008 Bond	\$ 2,748,500.00	\$ -	\$ 2,748,500.00

V. Energy Distribution System Repairs, Improvements, PM and Emergencies

Several EDS repairs and improvements were made during the First Quarter. The principle items for discussion are presented in the following sections.

A. Repairs and Improvements

Several repairs were made to the EDS and at customer buildings during the quarter. The items listed herein fall outside the scope of the DES Capital Projects.

- The design continued during the quarter on the 4th Ave Tunnel exhaust fan. Work on this project has been complicated by the fact that the existing fan can not be repaired and a replacement fan can not physically fit into the tunnel without the removal of a vault roof. Therefore, the replacement of this fan with two smaller fans is being evaluated and a design is anticipated to be complete during the Second Quarter of FY08 with the actual replacement to take place during the Third Quarter of FY08.
- The remaining value of the R&I budget at the end of the First Quarter FY08 is \$311,962.05. Table 7 provides a summary of the FY08 expenditures and revenues associated with the R&I budget.

Table 7. FY08 Repair and Improvement Budget Summary FY08

Description	Date	Tracking #	Vendor	Expenditure	Transfers	Net Market Adjustment	Market Value	Balance
"Market Value" and "Cost Value" at end of FY07						\$ 412.07	\$277,953.63	\$ 276,840.02
DES 632 Replace 6" Condensate Expansion Joint	08/15/07		CEPS	\$ 16,850.00				
DES 642 MH-B2, B3, B4 and Expansion Joint Replacement	08/27/07		TEG	\$ 373,291				
DES 661 Manhole B2, B3, B4, Expansion Joint Replacement and 4th Avenue Tunnel Vent for period of 8/5/07 - 9/1/07	09/11/07		TEG	\$ 466,757				
			Sub-Total First Quarter FY08	\$ 25,250.48	\$ 60,372.51	\$ (390.92)	\$ 34,731.11	\$ 35,122.03
<i>insert first item second quarter this row</i>								
			Sub-Total Second Quarter FY08	\$ -	\$ -	\$ -	\$ -	\$ -
<i>insert first item third quarter this row</i>								
			Sub-Total Third Quarter FY08	\$ -	\$ -	\$ -	\$ -	\$ -
<i>insert first item fourth quarter this row</i>								
			Sub-Total Fourth Quarter FY08	\$ -	\$ -	\$ -	\$ -	\$ -
			FY08 Year to Date	\$ 25,250.48	\$ 60,372.51	\$ (390.92)	\$ 312,684.74	\$ 311,962.05

B. Preventive Maintenance

Preventive maintenance, tunnel and manhole inspections and reviews of customers' mechanical rooms were performed during the quarter. The principle items for discussion are presented.

- EDS Tunnel and Manhole Inspections: Rock continues to fall from the ceilings in the tunnels under Broadway and 7th Avenues.
- State Tunnel Inspections: CNDE advises the replacement of expansion joints, valves, condensate piping and steam trap assemblies.
- The determination of the energy consumptions based on monthly bills for a number of customers required reviews of their meter installations. In each case, the meters were determined to be operating properly.
- Several minor repairs were made to some of the systems within the mechanical rooms at some customer's buildings.
- The thermographic review of the EDS revealed "hot spots" in the following areas: Union St near the Sheraton Hotel, in the sidewalk near the James K Polk Building, 3rd Avenue North near the Criminal Justice Center, 4th Avenue North near the Ryman Auditorium and near First Ave and Broadway at MH L. CNDE will continue monitoring these areas to determine if repair is warranted.

C. Emergencies

The repair to the chilled water system to eliminate the source of the leak on September 7 was treated as an emergency repair. CNDE was notified of the location of this leak on September 6 at approximately 10 pm by Metro Water Services who were excavating in the area (3rd Avenue North between Deaderick and James Robertson Parkway). The repairs were made the following evening, September 7 and 8, by a contractor (US Engineers) through CNDE. A portion of the chilled water system was isolated and shut-down during the evening hours of September 7 to facilitate the work. The buildings affected by the shut-down were: the Metro Courthouse, Criminal Justice Center, AA Birch Building, Ben West Building and the Parkway Towers. The majority of the work was completed that evening, however, the final paving was not completed until September 29.

CNDE did not report any other emergencies with the EDS during the quarter.

D. EDS Walk-through

As reported in the last quarterly report, since the majority of Nashville's investment in the district heating and cooling system is in the distribution system, TEG decided to conduct quarterly "walk-throughs" of this system. Since Constellation inspects all of the manholes every month, TEG made arrangements to accompany Constellation during the manhole

inspections once per quarter. Items which are reviewed during these inspections include the presence of water in the vaults, any type of piping or piping component leaks (such as expansion joints, flanges, valves, traps, etc.), the condition of piping to wall seals, condition of piping and component insulation, overall condition of the manhole and any other deficiency or safety related item which requires attention.

Due to failure of equipment which is used to facilitate the inspections (pumps), only a small portion of the manholes were reviewed this quarter, however a complete tour of the tunnel system was conducted during the quarter. The following comments and observations are a result of these reviews:

- Housekeeping
 - The tunnel system and manholes which were reviewed were in generally good order regarding housekeeping. No significant amounts of debris were noted. Manhole L in particular was very clean.
- Water Infiltration
 - Due to rain, run-off and groundwater, several of the manholes require pumping before an inspection can be conducted. This is an on-going problem, and it is very difficult to prevent water from infiltrating the manholes. As a result, CNDE pumps out every manhole on a monthly basis.
- Manhole L
 - This manhole was very clean and had very little water present.
 - One of the steam piping expansion joints has a minor leak. The packing on this joint needs to be serviced to eliminate this leak.
 - Portions of the condensate piping in this manhole is uninsulated. The need for insulation in this manhole is noted in the capital project DES 050.
 - The access ladder is interrupted by piping in the manhole and personnel entering or leaving the manhole must step “over” this piping. This presents a potential safety hazard and a remedy should be evaluated.
- Manhole 13
 - This manhole had a significant amount of water present and due to the failure of two different pumps, it was not possible to remove all of the water prior to conducting an inspection.
 - This manhole has a significant amount of mud present in the floor.
 - A 16" steam main valve had minor steam leaks at both a flange and at its bonnet. Both the flanges and the bonnet of this valve have already been “shot” with leak sealant. This valve needs to be re-sealed with leak sealant. Replacement of this valve cannot be accomplished without the apparent removal of the vault lid. Investigation of methods to upgrade this valve are under consideration.

- Manhole N1
 - The only piping in this manhole is chilled water piping and the manhole is in generally very good condition.
 - There is rebar protruding from the manhole roof at the manhole access point and presents a potential safety hazard. In addition, the exposed rebar also presents a potential future structural problem. Corrosion on the exposed rebar can “wick” into the concrete structure and cause future failure fo the concrete around the rebar. This rebar should be cut back to the manhole wall and then be painted and sealed to prevent potential corrosion of the rebar within the concrete.
 - The majority of this manhole is above ground. The manhole frame and lid appears to have been simply set on the roof of this manhole and then a small amount of grout was used to secure it in place. This frame and lid is slightly loose due to this construction and will probably require re-attachment in the future.
- 4th Ave Tunnel, 7th Ave Tunnel and Broadway Tunnel
 - A walk through of these structures was conducted during a review of the work completed during the second phase of the tunnel lighting project.
 - Generally speaking, with the exception of isolated areas in which rock has fallen from the ceilings, the tunnels are in good overall condition.
 - Openings in the handrails on the elevated levels at vault locations noted during a prior visit have been addressed and no longer present a safety hazard.
 - A rather severe water leak exists in the roof of the 7th Avenue Tunnel. This leak is located at one of the newly replaced light fixtures. Since the walk through of the tunnels was conducted during severe drought conditions, it is not clear whether or not this leak is due to groundwater or a leaking utility. The location of this leak should be reported to the local water and sewer utility on the chance that it is a piping leak. In addition, the crack in the tunnel roof which is allowing this water to infiltrate into the tunnel should be inspected to determine whether or not it can be repaired.

VI. Customer Relations

This section contains descriptions of the marketing efforts made by the DES Team during the quarter. The topics of interactions, meetings and training seminars with the customers are also discussed.

A. Marketing

- The CNDE Marketing Plan continues to be “a work-in-progress” during the quarter.
- CNDE reports investigating the possible construction of potential customers along Gateway Corridor.
- The Country Music Hall of Fame is currently experiencing problems with their air-cooled chillers and have discussed the possibility of receiving services from DES. Additional meetings and further discussions are expected.
- The BB King Restaurant is currently being investigated as a potential customer.

B. Customer Interaction

- The chilled water demand charges were adjusted for the Renaissance Office Complex and the Ryman Auditorium for recorded excursions during the months of July and August.
- In July, the Metro Public Library requested their chilled water return temperature be returned to the contract value of 56°F.
- The Criminal Justice Center reported cooling problems with some of their equipment. They were advised to contact the installing contractor and engineer for the equipment.
- Steam service was returned to the Parkway Towers at their request. This building had been isolated for the summer at the request of the building owner.
- CEPS met with representatives of LP Field to discuss a reduction in their chilled water demand. A review of this issue is ongoing.
- Contact and coordination was made with the affected customers regarding the September 7th shut-down of the chilled water system.
- Several customers contacted either CNDE or TEG regarding their invoices during the quarter. In each case, the consumptions for the months in question appeared to be in agreement with the historic data. CNDE investigated the metering station at each of the concerned customer and reported that the metering equipment was operating appropriately.

VII. Recommendations

Based on the review of the First Quarter EGF and EDS operations, the following recommendations are made.

- As mentioned in previous reports, further investigation is recommended regarding the addition of automated O₂-trim to the boilers. This increase in automation may increase the fuel efficiency of the boilers and may have a relatively short return on investment. TEG will begin the investigation of the economic benefit related to this modification during the Second Quarter FY08.

- Due to the apparent soil erosion on the west face of the EGF, CNDE should determine if the terrain on the west side of the EGF needs regrading to prevent rainwater from flowing into and under the foundation wall. These repairs could help prevent further settling of the foundation and soil erosion.
- TEG asked CNDE to include a discussion of the EGF water treatment in their monthly reports and to provide TEG with the water treatment contractor's (Chemtreat) monthly chemistry report. TEG will review and monitor the EGF and EDS water treatment as part of the regular monthly monitoring activities.
- Existing minor leaks within the manholes need to be reviewed and repaired.
- Insulation which is either not present or in disrepair within the manholes needs to be addressed through either capital projects which include work within these manholes or through DES 050.
- Potential safety hazards within some of the manholes need to be addressed.
- CNDE should continue to remove any debris present in the manholes as inspections and schedules allow.